

Appl. No. 10/685,219

Reply to Examiner's Action dated 01/27/2006

REMARKS

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully request reconsideration of this application in view of the foregoing amendments and the following remarks.

The Applicant originally submitted Claims 1-20 in the application, and in a prior response, elected to prosecute Claims 1-11. In the present response the Applicant has amended Claim 1, by moving the subject matter of Claim 4 into Claim 1, and canceled Claim 4. Additionally, Claims 5 and 7 have been amended to recite dependence on Claim 1, instead of now canceled Claim 4. Accordingly, Claims 1-3 and 5-11 are currently pending in the application.

I. Formal Matters and Objections

The Examiner states that this application currently names joint inventors (Detailed Action, Page 2, Line 12). In response, the Applicant wishes to point out that this application does not name joint inventors; only one inventor is named in the application.

II. Rejection of Claims 1-11 under 35 U.S.C. §103

The Examiner rejects Claims 1-6 and 8-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,551,935 to Sinha, *et al.* ("Sinha") in view of with U.S. Patent 4,968,381 to Prigge *et al.* ("Prigge"). In the Office Action, the Examiner apparently incorrectly refers to Sinha as U.S. Patent 6,602,117, instead of U.S. Patent 6,551,935. Clarification is requested. Claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Sinha in view of Prigge, and in view of U.S. Patent 5,906,949 to Sato ("Sato").

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The Applicant maintains that the combination of Sinha in view of Prigge do not teach or suggest all the elements recited in Claim 1 and its dependent claims, and is not a proper combination.

Claim 1 recites, "said abrasive particle stabilizer comprises molecules that are equivalent to repeating units of polymers comprising abrasive particles in said slurry." The Examiner acknowledges that Sinha fails to teach or suggest the above-quoted element of Claim 1 (Detailed Action, Page 3, Lines 15-16). The Examiner, however, then cites Column 2, Lines 5-11 of Prigge for the proposition of teaching the presence of silica and a silicate salt, and then argues that:

Since the combination of Sinha's polishing composition comprising silicic acid and Prigge's polishing slurry comprising silica and a silicate salt is know, then the said combination would result in producing the applicant's abrasive particle stabilizer. Hence it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Prigge's slurry that contains silica and silicate salt with Sinha's polishing slurry that contains silicic acid for the purposes of obtaining a haze-free wafer (see Prigge, column 6, lines 23-26) (Detailed Action, Page 4, Lines 3-9)

The Applicant submits that the Office Action does not support the argument that Sinha in view of Prigge teach or suggest an abrasive particle stabilizer that comprises molecules equivalent to repeating units of polymers comprising abrasive particles in the slurry, as now recited in Claim 1. As pointed out in paragraph [0026] of the present application, such an abrasive particle stabilizer can retard the dissolution of the abrasive particles, help retain the particle's sphericity and size for longer periods during polishing, and help to prevent abrasive particles from aggregating and precipitating out of the slurry. In contrast, the Examiner does not cite any portions of Sinha or Prigge that teach or suggest these, or other advantages, associated with having an abrasive particle stabilizer that comprises molecules equivalent to repeating units of polymers comprising abrasive particles. The Applicant maintain that there is no such recognition by these references, as illustrated by the

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Examiner's need to cite Prigge for the proposition of teaching abrasive particles, and then to cite a different reference, Sinha, for the proposition of teaching abrasive particle stabilizers.

The Examiner argues that there is motive to combine Sinha and Prigge for the purposes of obtaining a haze-free wafer. This argument, however, ignores that Prigge is polishing silicon wafers (*see e.g.*, Column 1, Lines 6-12; Column 5, Line 5 of Prigge), not copper conductive structures (*see e.g.*, Column 1, Lines 8-17; Fig 3 of Sinha). The Office Action does not explain why one who is polishing a metal surface would be motivated obtain a haze-free wafer surface by modifying Sinha's slurry according to Prigge. The Applicant contend that there is no such motivation, because at the stage of polishing taught by Sinha, the wafer is already covered by metal layers (*see e.g.*, copper layer 20 and tungsten-containing barrier layer 18, as shown in Fig. 3 of Sinha). Therefore, adding Prigge's silica and a silicate salt will not produce a haze-free wafer because the slurry does not polish the wafer surface.

The Applicant respectfully submits that the combination of Sinha in view of Prigge appears to require the improper use of hindsight.

Therefore the Applicant respectfully maintains that the combination of Sinha in view of Prigge as applied in the Office Action fails to establish a *prima facie* case of obviousness of Claim 1 and its dependent claims. The Applicant therefore respectfully requests the Examiner to withdraw the rejection.

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III. Conclusion

In view of the foregoing amendment and remarks, the Applicant sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicit a timely Notice of Allowance for Claims 1-3 and 5-11.

It is not believed that any fees are due regarding this matter. However, the Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-2395.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,
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